

REMARKS

Status of Claims:

Claims 1 and 3-11 remain for examination.

Claim Objections:

Claim 1 and 3-11 are objected to for the informalities set forth in the first paragraph on page 2 of the outstanding office action. By way of the instant amendment, the claims have been amended to conform to the suggestions made by the examiner. It is submitted that the amended claims remove the basis for the informality objections.

Rejection under Sec. 112, Par. 1:

Claims 1 and 3-10 are objected to under 35 U.S.C. § 112, ¶ 1 as failing to comply with the written description requirement. These claims have been amended to make it clear that each of the source and drain diffusion layers has “an extension region” (in the singular). It is believed that this change removes the basis for the Sec. 112 rejection.

Rejection under Sec. 112, Par. 2:

Claims 1 and 3-10 stand rejected under 35 U.S.C. § 112, ¶ 2 as for the reasons stated in the last paragraph on page 3 of the outstanding office action.

Applicant has amended the claims to clarify the language therein. Claim 1, for example now recites, in relevant part: “said source extension region not extending between said source diffusion layer and said first conductive type well”. This language was added to clarify the distinction of applicant’s claims over Fig. 3 of Van Roozendaal as discussed in the remarks of the prior amendment. The clear recitation made in the instant amendment is deemed to remove the Sec. 112, Par. 2 rejection. Similar changes have been made to the remaining rejected independent claims 4 and 8.

Prior Art Rejections:

Claims 1 and 3-11 stand rejected under 35 U.S.C. § 103 as obvious over APA in view of Duvvury, Watt and Van Roozendaal.

The examiner's rejections are respectfully traversed.

In applicant's prior amendment, source and drain extension regions were added to independent claims 1, 4 and 8 to more readily distinguish applicant's invention the prior art. In the instant amendment, similar limitations have been made to independent claim 11, and thus all of applicant's independent claims contain such limitations. In the outstanding office action, the examiner has cited Watt for teaching extension regions and has combined Watt with the remaining art of AP, Duvvury and Van Roozendaal.

However, applicant's readily admit that they have not invented extension regions *per se*. Rather, applicant's have discovered particular advantages in using extension regions in the particular structural arrangement of a protective circuit as recited in applicant's claims which include all of the remaining structural limitations contained therein. The advantages of using extension regions in the protective circuit structure recited in applicant's claims are NOT appreciated nor taught by the prior art, taken either separately or in combination.

As explained in applicant's specification, it is preferable to make the difference between the voltages V_{t1} and V_{t2} as large as possible. (V_{t1} is the trigger voltage, and V_{t2} is the transistor failure voltage). As stated on page 25, lines 3-8 of applicant's specification as originally filed:

Such an arrangement [the addition of extension regions to the source and drain] together with setting an N-type well 1a produces the multiplication effect, and the parasitic bipolar transistor composed of the source region 3c, a p-type well 2 under the gate electrode 6 and the drain region 3b becomes more easily turned on so that V_{t1} can be lowered with effect.

Thus, the extension regions combined with the remaining recited structure, in particular the N-type well, produce a multiplication effect which effectively reduces V_{t1} thereby increasing the difference between V_{t1} and V_{t2} .

The prior art teachings of extension regions *per se* (i.e., Watt) do not supply any motivation to one of skill in the art to combine such a teaching with the other specifically recited structural limitations as set forth in applicant's claims. Nothing in Watt would motivate one to utilize such extension regions in the particular structural protective circuit arrangement recited in applicant's claims and nothing in APA nor Duvvury nor Van Roozendaal would lead one to such a combination as well. In this connection it is noted that the claims have been amended to specifically exclude the arrangement of Van Roozendaal.

Thus, It is thus submitted that the PTO has not made out a *prima facie* case of obviousness under the provisions of 35 U.S.C. § 103, and thus applicants claims are patentable over the prior art.

Conclusions:

The application is now believed to be in condition for allowance and an early indication of same is earnestly solicited.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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By 

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